MetroAir Virtual Airlines

WEATHER GUIDE V 1.0
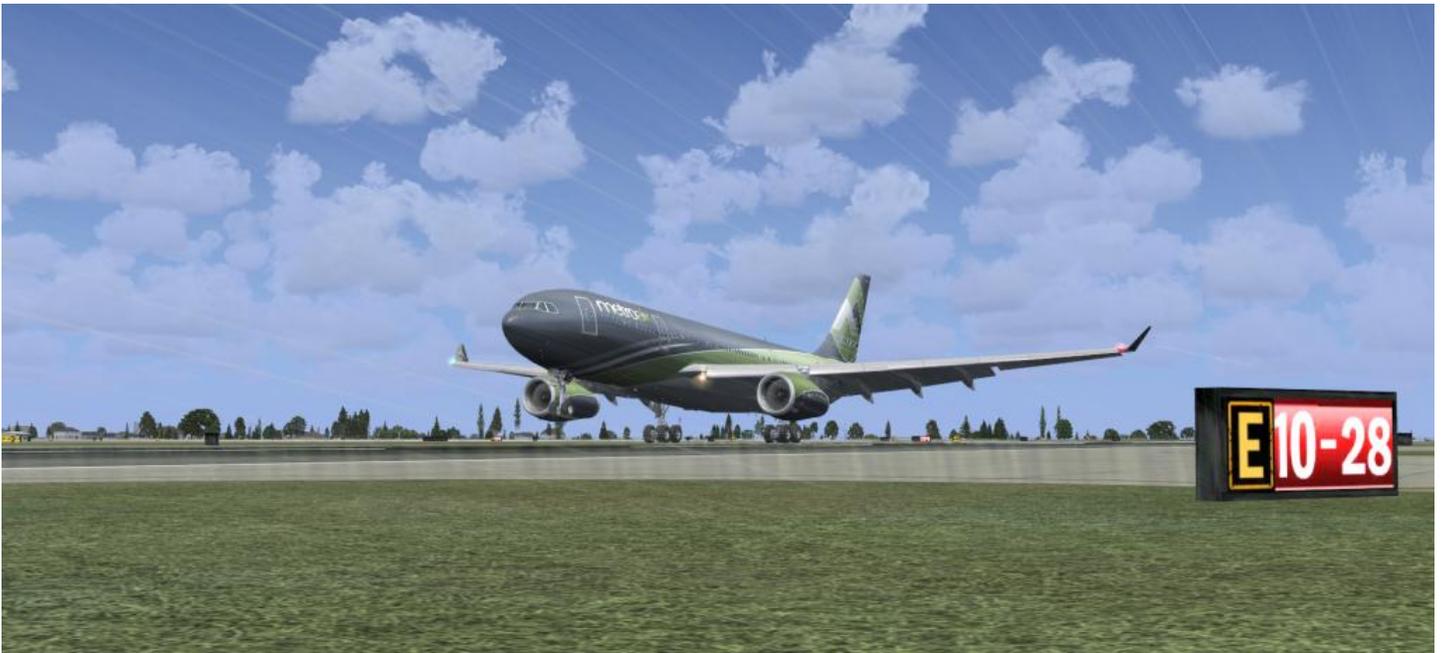
NOT FOR REAL WORLD AVIATION

GETTING STARTED

Weather is a key factor in the aviation business. It controls much more than you can imagine. We are all familiar with the delays and cancellations caused by a major storm. Did you know that it also affects the routes and how fast you'll get to your destination? Did you know that it determines which runway you'll be taking off from and landing on? Since weather plays such an important factor in aviation you'll need to educate yourself on some of the basics and how it will affect your flights.

FINDING AVIATION WEATHER

### AVIATION WEATHER RESOURCES

If you are not flying on VATSIM you can find current weather conditions using other resources on the internet. Typically if you are running a third party weather generator it will already provide an interface to access current weather conditions where your plane currently is.

In addition, you can use websites such as http://aviationweather.gov/, http://www.wunderground.com/ or http://euro.wx.propilots.net/ to find current weather conditions at different airports.

USING VATSIM PILOT SOFTWARE

If flying on the VATSIM network, you can use your pilot clients mentioned in the VATSIM Guide to retrieve weather conditions. To do this you will need to be familiar with METARS which will be covered later in this guide.

If you are using Squawkbox, issue a ".metar <icao>" command. Example: ".metar KTPA" will retrieve the weather conditions at Tampa.
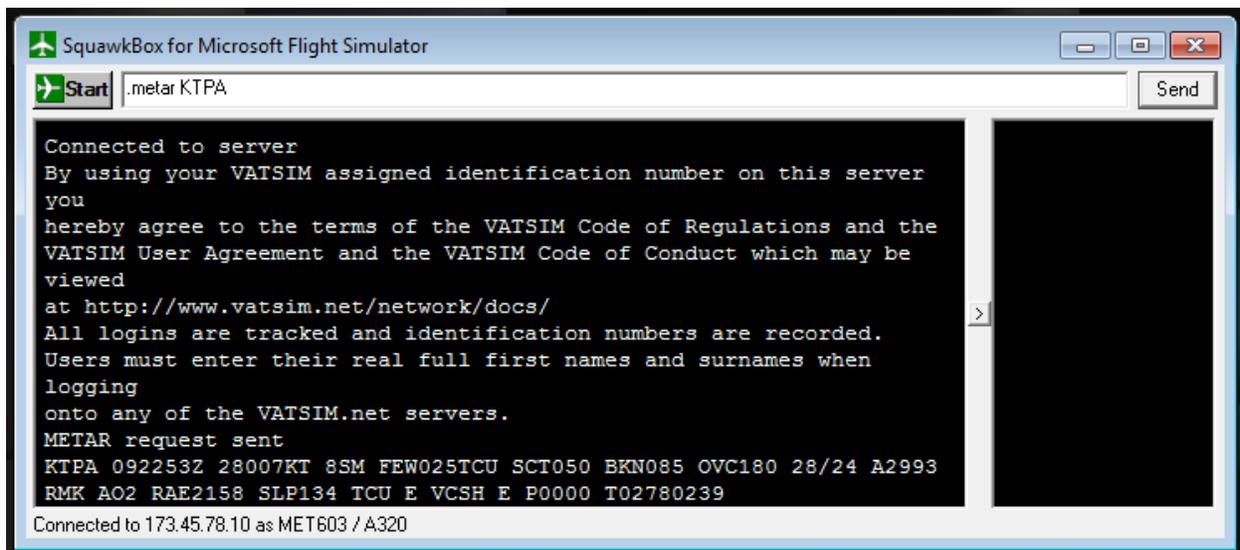
In FSInn, utilize the Weather panel which can be accessed from the Control Panel or the Mini Control Panel.
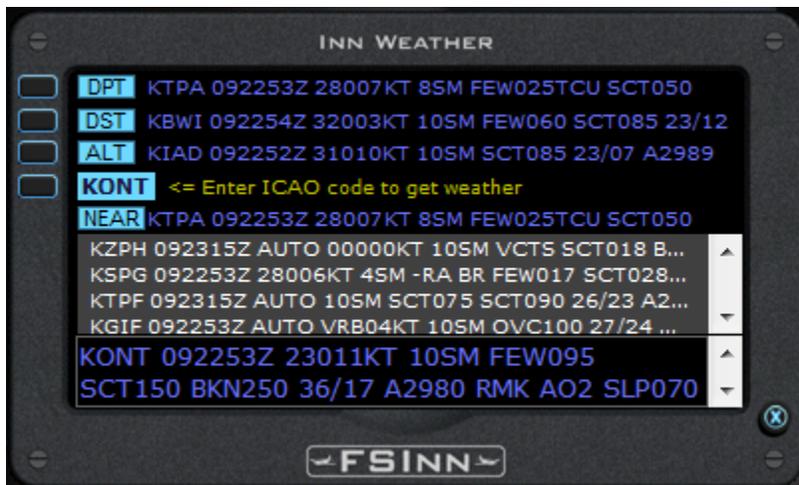
METROAIR WEBSITE

Weather information can be quickly viewed on the MetroAir website. When viewing a flight to bid on, weather information for the departure and arrival airports are immediately available to you. You can decode the METAR and also show the TAF for the airports as well.


VATSIM WEATHER REPORTS

If you are looking to get a preview of weather conditions before connecting to VATSIM, you can search METARs on the VATSIM website at http://metar.vatsim.net/search_metar.php. Entering an ICAO code will generate a result containing the METAR. Again, METARS will be covered later in this document.

OTHER UTILITIES

In addition to retrieving weather from websites and VATSIM pilot clients, it is also possible to use applications like VATSpy and ServInfo which will pull the weather directly from the VATSIM weather feeds.
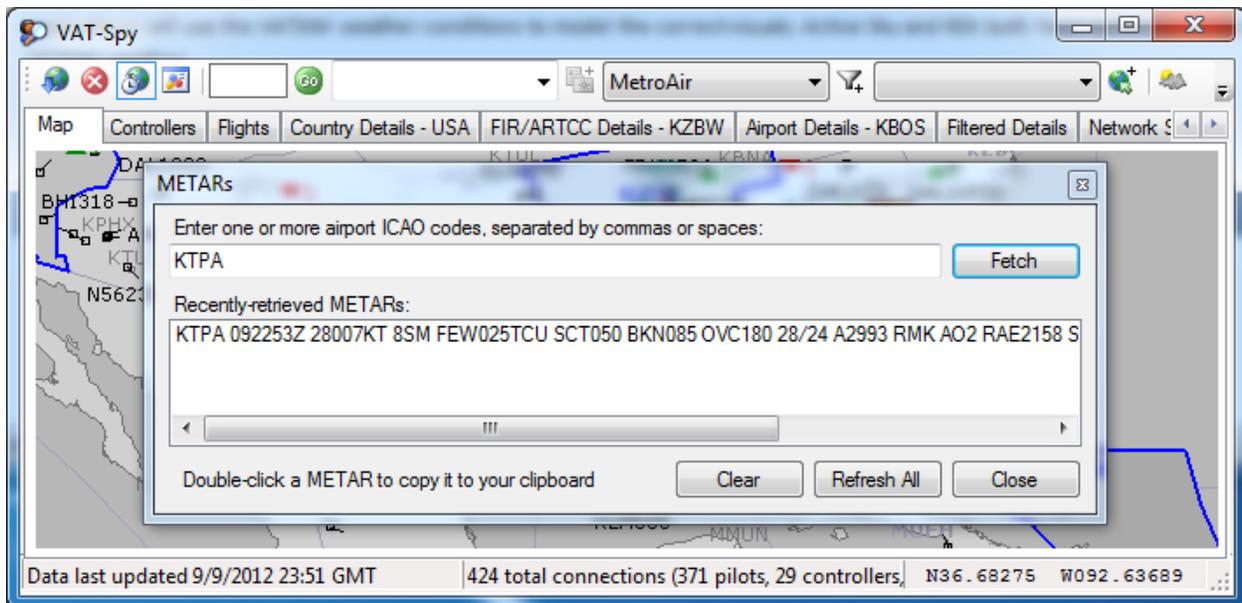
NOTES ON VATSIM WEATHER

VATSIM will generate limited weather conditions when connected though it does not affect visibility or precipitation. Many pilots will choose to use third party weather applications like Active Sky or REX to simulate actual weather conditions. Some of the applications will use the VATSIM weather conditions to model the correct visuals; ActiveSky and REX both have options to utilize VATSIM weather.

VATSIM weather may be delayed for up to 5 hours due to issues of when reporting stations issue forecasts and any loss of connection between VATSIM and real world weather services.

FLYING UNDER DIFFERENT WEATHER CONDITIONS TO VATSIM

It can be said that no two pilots are flying with the same weather conditions on VATSIM. Some simmers use real world weather conditions using programs like ActiveSky. Others rely on the VATSIM weather from their VATSIM pilot software. Some other pilots create their own weather ranging from clear skies to gale force winds in the middle of the hurricane depending on how brave they are. If you're weather conditions are radically different than that of VATSIM it is advisable to inform the controller of this on initial contact with them. If flying under extreme conditions such as a hurricane it is advisable to disconnect from VATSIM when flying under ATC control or near other pilots.

If flying with alternate conditions and the controller asks you to do something that you can't do (e.g. using a runway that would not be best aligned with the winds), let the controller know and request alternate procedures that suit you. If you feel unable to comply with the controller's direction, you should politely inform the controller that you are unable to follow and disconnect from VATSIM.

METARS

While there are utilities to help you decode a METAR such as the MetroAir website and other websites like http://www.wx-now.com/Weather/MetarDecode.aspx, we suggest you learn the basics of decoding a METAR on your own. It's a skill that you can

pick up quickly and you can easily make decisions based on some shorthand notation for the weather rather than spending time using something else to decode it.

EXAMPLE

KFLL 092153Z 27012G16KT 10SM FEW050 33/21 A2991 RMK AO2

DECODING BASICS

First is always the ICAO location indicator. The example above is a METAR for Fort Lauderdale airport.

Next is the time the METAR was issued. This time includes the 2 digit date and a 4 digit time which is always in UTC/Zulu. This METAR was reported on the 9th day of the month at 21:53Z.

The wind is the next component. The first 3 digits are the direction where the wind is blowing from. Sometimes this may be shown at VRB meaning it is variable. The next 2 to 3 digits is the speed and unit of measurement, typically knots. Occasionally you'll see more indicating the winds are gusting. This is symbolized with a G following the wind speed and indicates the maximum wind speed observed. Calm winds are indicated as 00000KT. The winds at Fort Lauderdale at the time of this METAR were coming from 270° at a rate of 12 kts gusting to 16 kts.

Next is the visibility at the airport with a distance and unit of measurement. The visibility at Fort Lauderdale is 10 statute miles.

The cloud cover is the next indication indicating the amount, height and type of clouds. First you'll need to understand the different amounts of clouds. The measure is based on a fractional percentage of cloud coverage. Sky Clear is indicated as SK meaning 0/8 of the sky is covered with clouds or basically, no clouds. Few clouds, defined as 2/8 of the sky is cloudy is indicated as FEW. Scattered, meaning 3/8 – 4/8 of the sky is cloudy is indicated with SCT. Broken clouds are 5/8 – 7/8 cloud coverage and indicted as BKN. Overcast is the entire sky is cloud and is indicated as OVC. The next numeric value is the height of the clouds in hundreds of feet. Lastly you may or may not see an indication of the type of clouds, which can be Towering Cumulous or Cumulonimbus indicated as TCU or CB respectively. Some METARS may have CLR meaning the sky is clear below 12,000ft. Based on the example above, there are few clouds at Fort Lauderdale (1/8 or 2/8 of the sky is covered in clouds) at 5,000 ft.

Next is the temperature and dew point in Celsius. The first two digits are the temperature and the last two are the dew-point temperature. Temperatures below zero are indicated with an M for minus. Fort Lauderdale is currently 33° Celsius with a 21° dew point temperature.

Next are the altimeter and the units of measure. A indicating inches of mercury or Q for hectoPascals. The altimeter at Fort Lauderdale is 29.91 inMg.

The end of the METAR is reserved for remarks which are started with an RMK. There are many types of remarks that may show in the list. The following examples are not meant to be exhaustive so if you are unsure of what a remark in a METAR is, we suggest you search for the notation using your favorite search engine.

A02 indicated the site is automated and has a precipitation sensor. A01 means it is automated but without a precipitation sensor. RVR followed by numbers means the runway visual range. SLP followed by numbers is the sea level pressure.

ADVANCED DECODING

For brevity, there are some aspects of METAR decoding that is not covered above such as understanding various weather observations that may indicate rain to volcanic ash. For more details on decoding we suggest you check out the in-depth FAQ page provided by Weather Underground at http://www.wunderground.com/metarFAQ.asp.

METEOROLOGICAL CONDITIONS

Weather will determine the type of flight that you are allowed to fly. If the sky is clear you may wish to file a VFR (Visual Flight Rules) flight plan since you can see where you are going. This is considered to be visual meteorological conditions (VMC). When you can't see because visibility is less than 3 nautical miles or there are heavy rains, instrument meteorological conditions (IMC) would be in effect forcing you to file an IFR (Instrument Flight Rules) flight plan.

RUNWAY SELECTION

When departing or landing, you should choose a runway best aligned with a headwind. Headwinds provide extra lift on takeoff and help to slow down aircraft on landing. At Fort Lauderdale we have runways 9L/27R, 9R/27L, and 13/31. Knowing that winds are coming from 270°, we know it is probably best to land on either 27L or 27R.

There are certainly other conditions affecting which runway to select. Always make sure you have chosen a runway whose length can accommodate the minimum landing distances of your aircraft.

At some airports, Air Traffic Control considers calm wind conditions if the wind speed is less than 5kts. In these situations they may choose an alternate runway to meet other rules such as obeying noise ordinances or cooperating with surrounding air traffic control facilities.